95

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Date: 03-06-2017

Lab ID	:	**CP-2017-06-01-05**
Customer	:	Assistant Executive Engineer, (Project Division), Yelahanka Zone, BBMP, Bangalore.
Address	:	(Project Division), Yelahanka Zone, BBMP, Bangalore.
Project Name	:	Providing Children Play Equipment and open gym equipment in Yelahanka New town park at 'B' Sector in ward No.04
Agency	:	Technical Manager(West), KRIDL, Banagalore.
Customer's Reference	:	EE(Project)Ynk Zone/WO/07/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	01-06-17
Sample ID No	:	2017-06-01-05/01
Sample Type	:	Zuari 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	02-06-17

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.58%	–
2	Finess by Air permeablity method (m^2/kg, Min)	295.5m^2/kg	225m^2/kg, Min
3	Density (gm/cc)	3.18	–
4	Standard Consistency (%)	29.5%	Not specified
5	Initial Setting time	265 minutes	Not less than 30 minutes
6	Final Setting time	340 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

Note:
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Prepared by
Harshitha

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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34

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Date: 30-06-2017

Lab ID	:	**CP-2017-06-01-05**
Customer	:	Assistant Executive Engineer, (Project Division), Yelahanka Zone, BBMP, Bangalore.
Address	:	(Project Division), Yelahanka Zone, BBMP, Bangalore.
Project Name	:	Providing Children Play Equipment and open gym equipment in Yelahanka New town park at 'B' Sector in ward No.04
Agency	:	Technical Manager(West), KRIDL, Banagalore.
Customer's Reference	:	EE(Project)Ynk Zone/WO/07/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	01-06-17
Sample ID No	:	2017-06-01-05/01
Sample Type	:	Zuari 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	02-06-17

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	29.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	38.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	55.5N/mm^2	Not less than 53 N/mm^2

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33

TEST REPORT ON COARSE AGGREGATES

Date: 06-06-2017

Lab ID	:	**CP-2017-06-01-05**
Customer	:	Assistant Executive Engineer, (Project Division), Yelahanka Zone, BBMP, Bangalore.
Address	:	(Project Division), Yelahanka Zone, BBMP, Bangalore.
Project Name	:	Providing Children Play Equipment and open gym equipment in Yelahanka New town park at 'B' Sector in ward No.04
Agency	:	Technical Manager(West), KRIDL, Banagalore.
Customer Reference	:	EE(Project)Ynk Zone/WO/07/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	01-06-17
Sample ID No	:	2017-06-01-05/02(a)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	01-06-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	72	72	1.4	98.6	90-100
3	10 mm	3592	3664	73.3	26.7	25-55
4	4.75 mm	1302	4966	99.3	0.7	0-10
5	Pan	34	5000	100	0	–

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-06-01-05**

Sample ID No : 2017-06-01-05/02(a)

Date: 06-06-2017

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	11.1	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	10.9	
3	Specific Gravity	2.68	–
4	Bulk Density(Loose) (Kg/l)	1.51	–
5	Bulk Density(Compacted) (Kg/l)	1.53	–
6	Water Absorption(%)	0.22	–
7	Aggregate crushing Value(%)	22.1	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	19.2	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

Note:
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Harshitha

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Authorized Signature
Quality Manager

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(31)

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-06-01-05**	**Date: 06-06-2017**
Customer	:	Assistant Executive Engineer, (Project Division), Yelahanka Zone, BBMP, Bangalore.	
Address	:	(Project Division), Yelahanka Zone, BBMP, Bangalore.	
Project Name	:	Providing Children Play Equipment and open gym equipment in Yelahanka New town park at 'B' Sector in ward No.04	
Agency	:	Technical Manager(West), KRIDL, Banagalore.	
Customer's Reference	:	EE(Project)Ynk Zone/WO/07/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample condition	:	Satisfactory	
Date of Receipt	:	01-06-17	
Sample ID No	:	2017-06-01-05/02(b)	
Sample Type	:	40mm down size coarse aggregate	
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties	
Date of test	:	01-06-17	

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	816	816	5.4	94.6	90-100
3	20 mm	7542	8358	55.7	44.3	30-70
4	10 mm	3289	11647	77.6	22.4	10-35
5	4.75 mm	3016	14663	97.8	2.2	0-5
6	Pan	337	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-06-01-05** **Date: 06-06-2017**

Sample ID No : 2017-06-01-05/02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.9	
3	Specific Gravity	2.58	–
4	Bulk Density(Loose) (Kg/l)	1.45	–
5	Bulk Density(Compacted) (Kg/l)	1.51	–
6	Water Absorption(%)	0.26	–

Note:

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Authorized Signatory
Quality Manager

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29

TEST REPORT OF FINE AGGREGATE

Date: 06-06-17

Lab ID	:	**CP-2017-06-01-05**
Customer	:	Assistant Executive Engineer, (Project Division), Yelahanka Zone, BBMP, Bangalore.
Address	:	(Project Division), Yelahanka Zone, BBMP, Bangalore.
Project Name	:	Providing Children Play Equipment and open gym equipment in Yelahanka New town park at 'B' Sector in ward No.04
Agency	:	Technical Manager(West), KRIDL, Banagalore.
Customer's Reference	:	EE(Project)Ynk Zone/WO/07/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	01-06-17
Sample ID No	:	2017-06-01-05/03
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS 383 : 2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1, 3) RA2012 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	01-06-17
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0	100	100	100	100	100
2	4.75 mm	15	15	1.5	98.5	90-100	90-100	90-100	95-100
3	2.36 mm	39	54	5.4	94.6	60-95	75-100	85-100	95-100
4	1.18 mm	78	132	13.2	86.8	30-70	55-90	75-100	90-100
5	600 micron	315	447	44.7	55.3	15-34	35-59	60-79	80-100
6	300 micron	291	738	73.8	26.2	5-20	8-30	12-40	15-50
7	150 micron	183	921	92.1	7.9	0-10	0-10	0-10	0-15
8	Pan	79	1000	100	0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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AE Seely

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2017-06-01-05** **Date: 06-06-17**

Sample ID No : 2017-06-01-05/03

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	2.12	–
2	Specific Gravity	2.62	–
3	Material finer than 75 micron(%)	3.8	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

Note:
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Quality Manager

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CEMENT CONCRETE FLOORING TILES

Date: 10-06-17

Lab ID	:	**CP-2017-06-07-01**
Customer	:	Assistant Executive Engineer, (Project Division), Yelahanka Zone, BBMP, Bangalore.
Address	:	(Project Division), Yelahanka Zone, BBMP, Bangalore.
Project Name	:	Providing Children Play Equipment and open gym equipment in Yelahanka New town park at 'B' Sector in ward No.04
Agency	:	Technical Manager(West), KRIDL, Banagalore.
Customer Reference	:	EE(Project)Ynk Zone/WO/07/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	07-06-17
Sample ID No	:	2017-06-07-01/02
Sample Type/ Size	:	Pre-Polished Designer Cement Concrete Tiles
Reference to BIS codes	:	IS 1237:2012
Date of test	:	07-06-17

1.Wet Transverse Strength

Sl.No.	Dimension (mm)			Wet Transverse Strength	Average	Requirement as per IS:1237-2012
	L	B	T	(N/mm^2)	(N/mm^2)	
1	401	400	25.14	8.41	8.07	The average wet transverse strength shall not be less than $3N/mm^2$.
2	400	400	25.08	8.13		
3	401	400	25.11	7.54		
4	400	399	25.19	8.17		
5	401	401	25.11	7.62		
6	400	400	25.17	8.52		

2. Water Absorption

Sl.No.	Dimension (mm)			Water Absorption	Average	Requirement as per IS:1237-2012
	L	B	T	(%)	(%)	
1	400	400	25.04	2.14	2.39	The average percentage of water absorption shall not exceed 10.
2	399	401	25.12	2.38		
3	401	399	25.09	2.45		
4	400	400	25.14	2.17		
5	400	400	25.17	2.67		
6	401	399	25.09	2.52		

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Quality Manager

TEST REPORT OF CEMENT CONCRETE KERB STONE

Lab ID	:	**CP-2017-06-07-01**	**Date: 10-06-17**
Customer	:	Assistant Executive Engineer, (Project Division), Yelahanka Zone, BBMP, Bangalore.	
Address	:	(Project Division), Yelahanka Zone, BBMP, Bangalore.	
Project Name	:	Providing Children Play Equipment and open gym equipment in Yelahanka New town park at 'B' Sector in ward No.04	
Agency	:	Technical Manager(West), KRIDL, Banagalore.	
Customer's Reference	:	EE(Project)Ynk Zone/WO/07/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	07-06-17	
Sample ID No	:	2017-06-07-01/01	
Sample Type /Size	:	CC Kerb Stone/ 450*165*400mm	
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete	
Date of test	:	07/06/2017	

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	Kg	(Sq.mm)	(KN)	(N/mm2)	(N/mm2)	(N/mm2)
1	A	100.01	165.51	2.864	7854	151.0	19.2	17.9	22.3
2	B	100.03	165.49	2.741	7857	150.7	19.2	19.2	24.0
3	C	100.01	165.50	2.849	7854	149.7	19.1	19.1	23.8

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2017-06-15-03** **Date: 20-06-17**

Customer : Assistant Executive Engineer, (Project Division), Yelahanka Zone, BBMP, Bangalore.

Address : (Project Division), Yelahanka Zone, BBMP, Bangalore.

Project Name : Providing Children Play Equipment and open gym equipment in Yelahanka New town park at 'B' Sector in ward No.04

Agency : Technical Manager(West), KRIDL, Banagalore.

Customer's Reference : EE(Project)Ynk Zone/WO/07/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 15-06-17

Sample ID No : 2017-06-15-03/01

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 20/06/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M20	13/06/2017	20/06/2017	150.37 X 150.24 X 150.22	22592	8.220	388.6	17.2	16.9
2	PCC	M20	13/06/2017	20/06/2017	150.46 X 150.32 X 150.98	22617	8.298	386.8	17.1	
3	PCC	M20	13/06/2017	20/06/2017	150.26 X 150.89 X 150.23	22673	8.398	374.1	16.5	

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Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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